Table → Graph → Equation

1) It takes one minute to fill a four-gallon container at the Exeter spring. How long does it take to fill a six gallon container? Fill in the missing entries in the table below, and plot points on the grid at the right.

Minutes	1			2		3		4		5
Gallons	4	5	6		11		14		19	

Notice that it makes sense to connect the dots you plotted (thereby forming a continuous pattern). Is the same true of the sunset-time graph you looked at recently? Explain.

2) Crossing a long stretch of the Canadian plains, passenger trains maintain a steady speed of 80 mph. At that speed, what distance is covered in half an hour? How much time is needed to cover 200 miles? Fill in the missing entries in the table below, and plot points a grid.

Hours	0	½		1	2		3		4	*t*
Distance			60			200		300		

3) At noon one day, the Exeter River peaked at 11 feet above flood stage. It then began to recede, its depth dropping at 4 inches per hour.
   a) At 3:30 that afternoon, how many inches above flood stage was the river?
   b) Let *t* stand for the number of hours since noon, and *h* stand for the corresponding number of inches that the river was above flood stage. Make a table of values, and write an equation that expresses *h* in terms of *t.*
   c) Plot *h* versus *t*, with *t* on the horizontal axis.
   d) For how many hours past noon was the river at least 36 inches above flood stage?

4) Confirm that the five points in the table all lie on a single line. Write an equation for that line. Graph the line on the same system of axes.

X	*Y*
-3	7
-2	5
-1	3
0	1
1	-1